Fig. 1

NL1:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC     60
CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA    120
ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG    180
                    M  A  D  T  I  F  G  S  G  N  D  Q      12
TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC    240
 W  V  C  P  N  D  R  Q  L  A  L  R  A  K  L  Q  T  G  W  S     32
GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG    300
 V  H  T  Y  Q  T  E  K  Q  R  R  K  Q  H  L  S  P  A  E  V     52
GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA    360
 E  A  I  L  Q  V  I  Q  R  A  E  R  L  D  V  L  E  Q  Q  R     72
ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG    420
 I  G  R  L  V  E  R  L  E  T  M  R  R  N  V  M  G  N  G  L     92
TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC    480
 S  Q  C  L  L  C  G  E  V  L  G  F  L  G  S  S  S  V  F  C    112
AAAGACTGCAGGAAGGTCTGGAAGAGGTCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAG    540
 K  D  C  R  K  V  W  K  R  S  G  A  W  F  Y  K  G  L  P  K    132
TATATCTTGCCCCTGAAGACCCCTGGCCGAGCTGATGAGCCCCAGTTCCGACCTTGGCCC    600
 Y  I  L  P  L  K  T  P  G  R  A  D  E  P  Q  F  R  P  W  P    152
ACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCTGAGACCAGCCGCATCTACACGTGGGCC    660
 T  E  P  A  E  R  E  P  R  S  S  E  T  S  R  I  Y  T  W  A    172
CGAGGAAGAGTGGTTTCCAGTGACAGTGACAGTGACTCGGATCTTAGCTCCTCCAGCCTA    720
 R  G  R  V  V  S  S  D  S  D  S  D  S  D  L  S  S  S  S  L    192
GAGGACAGACTCCCATCCACTGGGGTCAGGGACCGGAAAGGCGACAAACCCTGGAAGGAG    780
 E  D  R  L  P  S  T  G  V  R  D  R  K  G  D  K  P  W  K  E    212
TCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGGTTCACCCAACCCGCGGGCCACCTCTTT    840
 S  G  G  S  V  E  A  P  R  M  G  F  T  Q  P  A  G  H  L  F    232
```

[redacted]

```
GGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACGGGCACAGGCTCTGCTGACCCGCCAGGG   900
 G  L  Q  S  S  L  A  S  G  E  T  G  T  G  S  A  D  P  P  G    252
GGAGGGACAGGCTCTGCTGACCCGCCAGGGGGACCCCGCCCCGGGCTGACCCGAAGGGCC   960
 G  G  T  G  S  A  D  P  P  G  G  P  R  P  G  L  T  R  R  A    272
CCGGTAAAAGACACACCTGGACGAGCCCCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCC  1020
 P  V  K  D  T  P  G  R  A  P  A  A  D  A  A  P  A  G  P  S    292
AGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAACAGACTTCCCTGTGGAGGATTCCTGCC  1080
 S  C  L  G  *                                                  296
AGACCCTGCCCGGCTCCTCCCTGACCGGTCCTTGTGCCCTCACCAGACACCCTGTTGGCC  1140
ATGACTCAACAAACCAGTGTTGGGAGCCGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCAC  1200
CCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCCACCCCCTCCAACCACTGCCCTCAGCCC  1260
CCGACCTTATTTATTACCCTCCCCTCCCACACCCCCAATCTACCTGGTGATGATTTTAAG  1320
TTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTTCCCACATGCAGTGTCAGAGGGGCCGCC  1380
CGGTGGGGCTATCTCCGTTGCTATATTAATGGCAAGACTAAATGAAACCTAGGGCACGGC  1440
CTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAG  1500
ACTCACCCACCCTCTCCCTCTCCCTTCAGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCC  1560
ATGGGCTGGCCCAGGACCGCGGGTGAAACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTA  1620
TGTTTGTTTGTTTTTGACACAGTCTCGCTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGA  1680
TCGCGGCTCACTGCAACCTCCACCTCCCGGGCTCAAGCGATTCTCTCACCTCAGCCTCCT  1740
GAGTAGGTGGGATTACAGATGCCCGCCACCACACCCAGTTAATTTTTGTATTTTTAGAAG  1800
AGATGGGGTTTCTCCATGTTGGCCAGGCTGGTCTTGAACTCCTGGTCTCAAGTGATCCGC  1860
CCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGCACCCAATCCTATT  1920
AGGTTTCTTTGAATCCCCTCATGGCCTGCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGA  1980
GGAGCTGGGAAGCTCTGGTGGATGCTATGAACTCACTTGCTGAAGAGCAGCGTTCAGGTG  2040
CATCCCCAGCCAGGGCACGTGGCTCCCTCAGCCATGAATTCACTTCTCTTCAGGAGGTTT  2100
GGCTTGGCATGAAAATACTTCATTCAGAGTATGGGCAAATGCTTCTGGAAAACCCTTCCC  2160
TGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTGATCACACCCTCCCATCCTTCCTGCCTC  2220
CTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCT  2280
GGGCCCCCACCATTCACTTTTTGTCCTTGCTGCTGGCAAACAGTAAAGAAACTGACTTTC  2340
CCTGTGGCACGTTATGCTTCAGAATTAAAACAATGAAGATTAAAA                  2385
```

Fig. 2

CL1 :

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC     60
CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA    120
ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG    180
                    M  A  D  T  I  F  G  S  G  N  D  Q      12
TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC    240
  W  V  C  P  N  D  R  Q  L  A  L  R  A  K  L  Q  T  G  W  S      32
GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG    300
  V  H  T  Y  Q  T  E  K  Q  R  R  K  Q  H  L  S  P  A  E  V      52
GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA    360
  E  A  I  L  Q  V  I  Q  R  A  E  R  L  D  V  L  E  Q  Q  R      72
ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG    420
  I  G  R  L  V  E  R  L  E  T  M  R  R  N  V  M  G  N  G  L      92
TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC    480
  S  Q  C  L  L  C  G  E  V  L  G  F  L  G  S  S  S  V  F  C     112
AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG    540
  K  D  C  R  K  K  V  C  T  K  C  G  I  E  A  S  P  G  Q  K     132
CGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTCGGGG    600
  R  P  L  W  L  C  K  I  C  S  E  Q  R  E  V  W  K  R  S  G     152
GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGCCGAGCT    660
  A  W  F  Y  K  G  L  P  K  Y  I  L  P  L  K  T  P  G  R  A     172
GATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT    720
  D  D  P  H  F  R  P  L  P  T  E  P  A  E  R  E  P  R  S  S     192
GAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTGGTTTCCAGTGACAGTGACAGT    780
  E  T  S  R  I  Y  T  W  A  R  G  R  V  V  S  S  D  S  D  S     212
GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC    840
  D  S  D  L  S  S  S  S  L  E  D  R  L  P  S  T  G  V  R  D     232
```

[redacted]

CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG 900

R K G D K P W K E S G G S V E A P R M G 252

TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG 960

F T Q P A G H L F G L Q S S L A S G E T 272

GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA 1020

G T G S A D P P G G G T G S A D P P G G 292

CCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCCCCCGCT 1080

P R P G L T R R A P V K D T P G R A P A 312

GCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA 1140

A D A A P A G P S S C L G * 325

CAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT 1200

GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGTCTG 1260

CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC 1320

ACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCCCACACC 1380

CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTT 1440

CCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC 1500

AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAG 1560

CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT 1620

GGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAAACCTGG 1680

GTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCGCTTTGT 1740

TGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT 1800

CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA 1860

CCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC 1920

TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG 1980

GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG 2040

TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT 2100

CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC 2160

ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAGAGTATG 2220

GGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG 2280

ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG 2340

GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCTTGCTGC 2400

TGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTAAAACAA 2460

TGAAGATTAAAA 2472

Fig. 3

CL2:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC      60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA     120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG     180

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT     240

GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC     300

TGGTCGGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG     360

GAGGTGGAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG     420

CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC     480

                                    M   R   R   N   V   M   G   N       8

GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG     540

 G   L   S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V      28

TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC     600

 F   C   K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G      48

CAGAAGCGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG     660

 Q   K   R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R      68

TCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGC     720

 S   G   A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G      88

CGAGCTGATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGA     780

 R   A   D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R     108

AGCTCTGAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTGGTTTCCAGTGACAGT     840

 S   S   E   T   S   R   I   Y   T   W   A   R   G   R   V   V   S   S   D   S     128

GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC     900

 D   S   D   S   D   L   S   S   S   S   L   E   D   R   L   P   S   T   G   V     148

AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG     960

 R   D   R   K   G   D   K   P   W   K   E   S   G   G   S   V   E   A   P   R     168
```

ATGGGGTTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT 1020

M G F T Q P A G H L F G L Q S S L A S G 188

GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCA 1080

E T G T G S A D P P G G G T G S A D P P 208

GGGGGACCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCC 1140

G G P R P G L T R R A P V K D T P G R A 228

CCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC 1200

P A A D A A P A G P S S C L G * 243

CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG 1260

GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGC 1320

CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA 1380

TCCGCCACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCC 1440

CACACCCCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGG 1500

GGGTTTCCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATT 1560

AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGA 1620

GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC 1680

AGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAA 1740

ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCG 1800

CTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC 1860

CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC 1920

ACCACACCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG 1980

CTGGTCTTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA 2040

TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT 2100

GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA 2160

TGAACTCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2220

TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG 2280

AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2340

TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC 2400

TGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCT 2460

TGCTGCTGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTA 2520

AAACAATGAAGATTAAAA 2538

Fig. 4

CL3:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC     60
CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA    120
ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG    180
                          M   A   D   T   I   F   G   S   G   N   D   Q      12
TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC    240
  W   V   C   P   N   D   R   Q   L   A   L   R   A   K   L   Q   T   G   W   S      32
GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG    300
  V   H   T   Y   Q   T   E   K   Q   R   R   K   Q   H   L   S   P   A   E   V      52
GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA    360
  E   A   I   L   Q   V   I   Q   R   A   E   R   L   D   V   L   E   Q   Q   R      72

ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG    420
  I   G   R   L   V   E   R   L   E   T   M   R   R   N   V   M   G   N   G   L      92
TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC    480
  S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V   F   C     112
AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG    540
  K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G   Q   K     132
CGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTCGGGG    600
  R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R   S   G     152
GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGCCGAGCT    660
  A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G   R   A     172
GATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT    720
  D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R   S   S     192
GAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTCGTAGGAAGAAAGTGCTGATCC    780
  E   T   S   R   I   Y   T   W   A   R   G   R   V   V   G   R   K   C   *         210
```

ACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGGAGACGA 840

AAGGCCGCGTGTTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGTGACAGT 900

GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC 960

CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG 1020

TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG 1080

GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA 1140

CCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCCCCCGCT 1200

GCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA 1260

CAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT 1320

GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGTCTG 1380

CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC 1440

ACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCCCACACC 1500

CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTT 1560

CCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC 1620

AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAG 1680

CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT 1740

GGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAAACCTGG 1800

GTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCGCTTTGT 1860

TGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT 1920

CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA 1980

CCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC 2040

TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG 2100

GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG 2160

TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT 2220

CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC 2280

ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAGAGTATG 2340

GGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG 2400

ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG 2460

GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCTTGCTGC 2520

TGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTAAAACAA 2580

TGAAGATTAAAA 2592

Fig. 5

CL4 :

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC     60
CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA    120
ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG    180
TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT    240
GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC    300
TGGTCCGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG    360
GAGGTGGAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG    420
CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC    480
                                  M   R   R   N   V   M   G   N      8
GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG    540
 G   L   S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V     28
TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC    600
 F   C   K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G     48
CAGAAGCGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG    660
 Q   K   R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R     68
TCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGC    720
 S   G   A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G     88
CGAGCTGATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGA    780
 R   A   D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R    108
AGCTCTGAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTCGTAGGAAGAAAGTGC    840
 S   S   E   T   S   R   I   Y   T   W   A   R   G   R   V   V   G   R   K   C    128
TGATCCACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGG    900
AGACGAAAGGCCGCGTGTTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGT    960
GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC   1020
AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG   1080
ATGGGGTTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT   1140
```

GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGGGGGACAGGCTCTGCTGACCCGCCA 1200

GGGGGACCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCC 1260

CCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC 1320

CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG 1380

GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGC 1440

CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA 1500

TCCGCCACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCC 1560

CACACCCCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGG 1620

GGGTTTCCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATT 1680

AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGA 1740

GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC 1800

AGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAA 1860

ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCG 1920

CTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC 1980

CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC 2040

ACCACACCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG 2100

CTGGTCTTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA 2160

TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT 2220

GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA 2280

TGAACTCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2340

TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG 2400

AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2460

TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC 2520

TGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCT 2580

TGCTGCTGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTA 2640

AAACAATGAAGATTAAAA 2658

Fig. 6

```
      1               15 16           30 31           45 46           60 61           75 76           90
1 NOC2 ---------------- ---------------- ---------------- ---------------- ---------------- ----------  0
2 NL1  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
3 LC1  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
4 LC2  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
5 LC3  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
6 LC4  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90

      91          105  106        120 121        135 136        150 151        165 166        180
1 NOC2 ---------------- ----------TCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG  65
2 NL1  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
3 LC1  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
4 LC2  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
5 LC3  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCGAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
6 LC4  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGGGTG CTCCGAGCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
```

```
       181          195 196          210 211          225 226          240 241          255 256          270
1 NOC2 TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- --------------- --------------- ---------------  108
2 NL1  TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- --------------- --------------- ---------------  223
3 LC1  TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- --------------- --------------- ---------------  223
4 LC2  TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGCAC TGACTGCACAGCAGT GAACAGGACCAACAC AGTCCCTGGTCTTAA  270
5 LC3  TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- --------------- --------------- ---------------  223
6 LC4  TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGCAC TGACTGCACAGCAGT GAACAGGACCAACAC AGTCCCTGGTCTTAA  270

       271          285 286          300 301          315 316          330 331          345 346          360
1 NOC2 --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  179
2 NL1  --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  294
3 LC1  --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  294
4 LC2  AGCACAGGTGGGCAG AGGCTGCAGACGGGC TGGTCGGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  360
5 LC3  --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  294
6 LC4  AGCACAGGTGGGCAG AGGCTGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  360

       361          375 376          390 391          405 406          420 421          435 436          450
1 NOC2 GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG  269
2 NL1  GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG  384
```

```
3 LC1  GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG    384
4 LC2  GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG    450
5 LC3  GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG    384
6 LC4  GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG    450

       451          465 466          480 481          495 496          510 511          525 526          540
1 NOC2 GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG    359
2 NL1  GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG    474
3 LC1  GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG    474
4 LC2  GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG    540
5 LC3  GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG    474
6 LC4  GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG    540

       541          555 556          570 571          585 586          600 601          615 616          630
1 NOC2 TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCTGGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC    449
2 NL1  TTCTGCAAAGACTGC AGGAAG--------- --------------- --------------- --------------- ---------------    495
3 LC1  TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCTGGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC    564
4 LC2  TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCTGGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC    630
5 LC3  TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCTGGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC    564
6 LC4  TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCTGGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC    630
```

```
       631          645 646          660 661          675 676          690 691          705 706          720
1 NOC2 TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC    539
2 NL1  --------------- ---GTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC    567
3 LC1  TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC    654
4 LC2  TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC    720
5 LC3  TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC    654
6 LC4  TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC    720

       721          735 736          750 751          765 766          780 781          795 796          810
1 NOC2 CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG    629
2 NL1  CGAGCTGATGAGCCC CAGTTCCGACCTTGG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG    657
3 LC1  CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG    744
4 LC2  CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG    810
5 LC3  CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG    744
6 LC4  CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG    810

       811          825 826          840 841          855 856          870 871          885 886          900
1 NOC2 GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------    643
2 NL1  GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------    671
3 LC1  GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------    758
```

```
4 LC2  GCCCGAGGAAGAGT- ---------- ---------- ---------- ---------- ----------    824
5 LC3  GCCCGAGGAAGAGTC GTAGGAAGAAAGTGC TGATCCACGCTGCAG CCTGGATGAGTCCTT GAAAACACCATGCGA AGTGGAAGAAGCCGG    834
6 LC4  GCCCGAGGAAGAGTC GTAGGAAGAAAGTGC TGATCCACGCTGCAG CCTGGATGAGTCCTT GAAAACACCATGCGA AGTGGAAGAAGCCGG    900

       901         915 916         930 931         945 946         960 961         975 976         990
1 NOC2 ---------- ----------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC    689
2 NL1  ---------- ----------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC    717
3 LC1  ---------- ----------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC    804
4 LC2  ---------- ----------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC    870
5 LC3  AGACGAAAGGCCGCG TGTTGTGTGATCTCA TCTATATGAGCAGTG GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC    924
6 LC4  AGACGAAAGGCCGCG TGTTGTGTGATCTCA TCTATATGAGCAGTG GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC    990

       991         1005 1006       1020 1021       1035 1036       1050 1051       1065 1066       1080
1 NOC2 CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG    779
2 NL1  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG    807
3 LC1  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG    894
4 LC2  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG    960
```

```
5 LC3  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   1014
6 LC4  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG   1080

       1081        1095 1096       1110 1111       1125 1126       1140 1141       1155 1156       1170
1 NOC2 ATGGGGTTCACCCAC CCGCCGGGCCACCTC TCTGGGTGCCAGAGC AGCCTGGCCAGTGGT GAGACGGG------- ---------------   847
2 NL1  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   897
3 LC1  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA   984
4 LC2  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA  1050
5 LC3  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA  1104
6 LC4  ATGGGGTTCACCCAA CCCGCGGGCCACCTC TTTGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA  1170

       1171        1185 1186       1200 1201       1215 1216       1230 1231       1245 1246       1260
1 NOC2 --------GACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   929
2 NL1  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC   987
3 LC1  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC  1074
4 LC2  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC  1140
5 LC3  GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC  1194
6 LC4  GGGGGGGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC  1260
```

```
      1261        1275 1276       1290 1291       1305 1306       1320 1321       1335 1336       1350
1 NOC2 CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1019
2 NL1  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1077
3 LC1  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1164
4 LC2  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1230
5 LC3  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1284
6 LC4  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGACTTCC CTGTGGAGGATTCCT  1350

      1351        1365 1366       1380 1381       1395 1396       1410 1411       1425 1426       1440
1 NOC2 GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1109
2 NL1  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1167
3 LC1  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1254
4 LC2  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1320
5 LC3  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1374
6 LC4  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC  1440

      1441        1455 1456       1470 1471       1485 1486       1500 1501       1515 1516       1530
1 NOC2 CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1199
2 NL1  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1257
3 LC1  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1344
```

```
4 LC2  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG   1410
5 LC3  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG   1464
6 LC4  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG   1530

       1531        1545 1546       1560 1561       1575 1576       1590 1591       1605 1606       1620
1 NOC2 CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG   1289
2 NL1  CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG   1347
3 LC1  CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG   1434
4 LC2  CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG   1500
5 LC3  CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG   1554
6 LC4  CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG   1620

       1621        1635 1636       1650 1651       1665 1666       1680 1681       1695 1696       1710
1 NOC2 GGGTTTCCCACATGC AGTGTCAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC   1379
2 NL1  GGGTTTCCCACATGC AGTGTCAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC   1437
3 LC1  GGGTTTCCCACATGC AGTGTCAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC   1524
4 LC2  GGGTTTCCCACATGC AGTGTCAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC   1590
5 LC3  GGGTTTCCCACATGC AGTGTCAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC   1644
6 LC4  GGGTTTCCCACATGC AGTGTCAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC   1710
```

```
        1711        1725 1726       1740 1741       1755 1756       1770 1771       1785 1786       1800
1 NOC2 GGCCTCCGAAGCTGC GTGTGGCCCCTTAGA GGTGAGCATCAGAGC CAGAGCAGTGAGGGG GAGACTCACCCACCC TCTCCCTCTCCCTTC  1469
2 NL1  GGCCTCCGAAGCTGC GTGTGGCCCCTTAGA GGTGAGCATCAGAGC CAGAGCAGTGAGGGG GAGACTCACCCACCC TCTCCCTCTCCCTTC  1527
3 LC1  GGCCTCCGAAGCTGC GTGTGGCCCCTTAGA GGTGAGCATCAGAGC CAGAGCAGTGAGGGG GAGACTCACCCACCC TCTCCCTCTCCCTTC  1614
4 LC2  GGCCTCCGAAGCTGC GTGTGGCCCCTTAGA GGTGAGCATCAGAGC CAGAGCAGTGAGGGG GAGACTCACCCACCC TCTCCCTCTCCCTTC  1680
5 LC3  GGCCTCCGAAGCTGC GTGTGGCCCCTTAGA GGTGAGCATCAGAGC CAGAGCAGTGAGGGG GAGACTCACCCACCC TCTCCCTCTCCCTTC  1734
6 LC4  GGCCTCCGAAGCTGC GTGTGGCCCCTTAGA GGTGAGCATCAGAGC CAGAGCAGTGAGGGG GAGACTCACCCACCC TCTCCCTCTCCCTTC  1800

        1801        1815 1816       1830 1831       1845 1846       1860 1861       1875 1876       1890
1 NOC2 AGCTCTGGGAGGCAG GCGCAGTGCCCCCCT CCCATGGGCTGGCCC AGGACCGCGGGTGAA ACCTGGGTCTGTTTA GTTTCTTTGGTTTTT  1559
2 NL1  AGCTCTGGGAGGCAG GCGCAGTGCCCCCCT CCCATGGGCTGGCCC AGGACCGCGGGTGAA ACCTGGGTCTGTTTA GTTTCTTTGGTTTTT  1617
3 LC1  AGCTCTGGGAGGCAG GCGCAGTGCCCCCCT CCCATGGGCTGGCCC AGGACCGCGGGTGAA ACCTGGGTCTGTTTA GTTTCTTTGGTTTTT  1704
4 LC2  AGCTCTGGGAGGCAG GCGCAGTGCCCCCCT CCCATGGGCTGGCCC AGGACCGCGGGTGAA ACCTGGGTCTGTTTA GTTTCTTTGGTTTTT  1770
5 LC3  AGCTCTGGGAGGCAG GCGCAGTGCCCCCCT CCCATGGGCTGGCCC AGGACCGCGGGTGAA ACCTGGGTCTGTTTA GTTTCTTTGGTTTTT  1824
6 LC4  AGCTCTGGGAGGCAG GCGCAGTGCCCCCCT CCCATGGGCTGGCCC AGGACCGCGGGTGAA ACCTGGGTCTGTTTA GTTTCTTTGGTTTTT  1890

        1891        1905 1906       1920 1921       1935 1936       1950 1951       1965 1966       1980
1 NOC2 GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1649
2 NL1  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1707
```

```
3 LC1  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1794
4 LC2  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1860
5 LC3  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1914
6 LC4  GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC  1980

          1981       1995 1996      2010 2011      2025 2026      2040 2041      2055 2056      2070
1 NOC2 CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1739
2 NL1  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1797
3 LC1  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1884
4 LC2  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  1950
5 LC3  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  2004
6 LC4  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG  2070

          2071       2085 2086      2100 2101      2115 2116      2130 2131      2145 2146      2160
1 NOC2 AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  1829
2 NL1  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  1887
3 LC1  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  1974
4 LC2  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA  2040
```

```
5 LC3  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA   2094
6 LC4  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA   2160

       2161       2175 2176       2190 2191       2205 2206       2220 2221       2235 2236       2250

1 NOC2 TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT   1919
2 NL1  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT   1977
3 LC1  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT   2064
4 LC2  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT   2130
5 LC3  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT   2184
6 LC4  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTTGCTC AGCCTGTCTTCAGCT   2250

       2251       2265 2266       2280 2281       2295 2296       2310 2311       2325 2326       2340

1 NOC2 TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC   2009
2 NL1  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC   2067
3 LC1  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC   2154
4 LC2  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC   2220
5 LC3  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC   2274
6 LC4  TGAGGAGCTGGGAAG CTCTGGTGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC   2340
```

```
        2341        2355 2356       2370 2371       2385 2386       2400 2401       2415 2416       2430
1 NOC2 TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT   2099
2 NL1  TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT   2157
3 LC1  TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT   2244
4 LC2  TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT   2310
5 LC3  TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT   2364
6 LC4  TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT   2430

        2431        2445 2446       2460 2461       2475 2476       2490 2491       2505 2506       2520
1 NOC2 CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC   2189
2 NL1  CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC   2247
3 LC1  CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC   2334
4 LC2  CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC   2400
5 LC3  CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC   2454
6 LC4  CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC   2520


        2521        2535 2536       2550 2551       2565 2566       2580 2581       2595 2596       2610
1 NOC2 TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT   2279
2 NL1  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT   2337
```

```
3 LC1  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT   2424
4 LC2  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT   2490
5 LC3  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT   2544
6 LC4  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT   2610

       2611        2625 2626       2640 2641       2655 2656
1 NOC2 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA   2327
2 NL1  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA   2385
3 LC1  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA   2472
4 LC2  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA   2538
5 LC3  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA   2592
6 LC4  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA   2658
```

Fig. 7

```
              1               15 16             30 31           45 46           60 61           75 76           90
1 NOC2  MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN   90
2 NL1   MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN   90
3 LC1   MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN   90
4 LC2   --------------- --------------- --------------- --------------- --------------- -------MRRNVMGN    8
5 LC3   MADTIFGSGNDQWVC PNDRQLALRAKLQTG WSVHTYQTEKQRRKQ HLSPAEVEAILQVIQ RAERLDVLEQQRIGR LVERLETMRRNVMGN   90
6 LC4   --------------- --------------- --------------- --------------- --------------- -------MRRNVMGN    8

              91              105 106           120 121         135 136         150 151         165 166         180
1 NOC2  GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL   180
2 NL1   GLSQCLLCGEVLGFL GSSSVFCKDCRK--- --------------- -----------VWKR SGAWFYKGLPKYILP LKTPGRADEPQFRPW   151
3 LC1   GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL   180
4 LC2   GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL    98
5 LC3   GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL   180
6 LC4   GLSQCLLCGEVLGFL GSSSVFCKDCRKKVC TKCGIEASPGQKRPL WLCKICSEQREVWKR SGAWFYKGLPKYILP LKTPGRADDPHFRPL    98
```

```
       181          195 196          210 211          225 226          240 241          255 256          270
1 NOC2 PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTH PPGHLSGCQSSLASG    270
2 NL1  PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG    241
3 LC1  PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG    270
4 LC3  PTEPAEREPRSSETS RIYTWARGRVVGRKC --------------- --------------- --------------- ---------------    210
5 LC4  PTEPAEREPRSSETS RIYTWARGRVVGRKC --------------- --------------- --------------- ---------------    128
6 LC2  PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG    188

       271          285 286          300 301          315 316          330
1 NOC2 ETGTGSADPPGG--- --------PRPGLTRR APVKDTPGRAPAADA APAGPSSCLG    315
2 NL1  ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG    296
3 LC1  ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG    325
4 LC2  ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG    243
5 LC3  --------------- --------------- --------------- ----------    210
6 LC4  --------------- --------------- --------------- ----------    128
```